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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,935	09/28/2006	Vladislav Sklyarevich	4410 CIP II	7114

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EXAMINER	
SZEWCZYK, CYNTHIA	
ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,935	SKLYAREVICH ET AL.	
	Examiner	Art Unit	
	CYNTHIA SZEWCZYK	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1-20 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-20 of copending Application No. 10/584,792. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented. Copending claims 1-20 are written identically to instant claims 1-20.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3, 4, 15, 17, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 3 recites the limitation "the skin layer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

6. Claims 4 and 17 recite “its surrounds of the body of material". It is unclear whether is it intended to be the surrounding area of the heated area or the surrounding of the body of material. It is also unclear whether the cooling is intended to occur during three possibilities: during, prior to, or after exposure; or if the claim intends to state that the cooling occurs during two possibilities: during exposure or prior to and after exposure.

7. Claim 15 recites the limitation "the skin layer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 24 recites the limitation "the polymer adhesive film" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by HAFNER (US 3,453,097) with evidence by ENCYCLOPEDIA BRITANNICA (microwaves).

HAFNER teaches a method of separating a body of brittle non-metallic material by thermal shock comprising exposing the body to microwave radiation (col. 2 lines 24-31) to heat the propagation path such that it results in the separating of the body material (col. 2, lines 48-54).

Regarding claim 2, HAFNER discloses that microwaves may be used as the laser (col. 2 lines 24-31) wherein a person having ordinary skill in the art would have known that microwaves have a frequency of 1 GHz – 1THz (or 1000 GHz) as evidenced by Encyclopedia Britannica.

Regarding claim 3, HAFNER indicates that the entire thickness of the glass is cut by the laser (col. 2, lines 51-52).

Regarding claim 4, HAFNER discloses that a coolant is dispensed to the radiation path on the glass while the laser travels the radiation path (col. 4, lines 29-34).

Regarding claim 5, HAFNER discloses that cooling gas is blown on the body (col. 4, lines 33-36).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 9, 10, 13, 15-18, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAFNER (US 3,453,097) with evidence by ENCYCLOPEDIA BRITANNICA (microwaves).

HAFNER teaches a method of separating a body of brittle non-metallic material by thermal shock as discussed above.

Regarding claim 9, HAFNER is silent to placing a metal mask upon the glass, however it would have been obvious to one of ordinary skill in the art to place a metal mask on the glass because doing so would protect the glass from any damage while irradiating with the laser. Additionally, HAFNER discloses that it is an objective to produce glass products that do not require any additional processing for the finished product in order to lower production costs (col. 1, lines 47-57).

Regarding claim 10, HAFNER discloses that the propagation line may be exposed to one or more laser beams at the same time (col. 3, lines 50-54) which indicates that the propagation path may be exposed to microwave all at once if several beams follow the same propagation path.

Regarding claim 13, HAFNER teaches that if an IR radiation laser is used, the glass body is coated with an infrared-absorptive agent (col. 3, lines 69-71). Since HAFNER also discloses that microwave irradiation may be used (col. 2 lines 24-31), a person having ordinary skill in the art would have known to adapt the method to coat the glass with a microwave absorbent instead.

Regarding claim 15, HAFNER indicates that the entire thickness of the glass is cut by the laser (col. 2, lines 51-52).

Regarding claim 16, see the discussion of claim 10 above.

Regarding claim 17, HAFNER discloses that a coolant is dispensed to the radiation path on the glass while the laser travels the radiation path (col. 4, lines 29-34).

Regarding claim 18, see the discussion of claim 9 above.

Regarding claim 24, HAFNER discloses that the propagation line may be exposed to one or more laser beams at the same time (col. 3, lines 50-54), which indicates that two or more lasers would traverse the propagation line.

Regarding claim 25, HAFNER discloses that the material is glass such as that commonly used for windows (col. 2, lines 54-56). It would have been obvious to one of ordinary skill in the art that laminated glass could have been used as the glass of HOFNER because laminated glass is often used in windows.

Regarding claim 26, HAFNER discloses that it is known to preheat the glass along the propagation line prior to cutting (col. 3, lines 36-40).

14. Claims 6, 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAFNER (US 3,453,097) as evidenced by ENCYCLOPEDIA BRITANNICA (microwaves) as applied to claims 1-5, 9, 10, 13, 15-18 and 24-26 above and further in view of HOEKSTRA et al. (US 6,660,963 B2).

HAFNER teaches a method of separating a body of brittle non-metallic material by thermal shock as discussed above. HAFNER is silent to placing the glass on a cold metal. HOEKSTRA teaches that chilling the bottom surface of a substrate is a method of separating a glass after being cut by a laser (col. 8, lines 40-42). A person having

ordinary skill in the art would have known that the two most common heat transfer methods are convection and conduction. It would have been obvious to one of ordinary skill in the art to try a conduction cooling method, such as placing the glass on a cold surface, because it is more efficient and there is a finite number of identified, predictable cooling solutions, with a reasonable expectation of success.

Regarding claim 11, HOEKSTRA discloses that it is known in the art to scribe the glass before using a laser along the propagation path to sever the glass (col. 6 line 63 - col. 7 line 6). It would have been obvious that the method of HAFNER could have adopted the scribing step of HOEKSTRA because HOEKSTRA discloses that the initial scribing achieves precise microscopic thermal gradients (col. 8, lines 24-25).

Regarding claim 19, see the discussion of claim 11 above.

Regarding claim 21, figure 1 of HOEKSTRA shoes that the laser may be shaped such that the applied concentrated radiation is elongated in the direction of the propagation path. It would have been obvious to one of ordinary skill in the art that the laser of HAFNER may have adopted a similar shape because HOEKSTRA discloses that is an optimal profile for lasers (col. 7, lines 34-36).

Regarding claim 22, figure 1 of HOEKASTRA shows that the beam appears to have a higher power density in the front than the back since the area is larger.

Regarding claim 23, it would have been obvious to one of ordinary skill in the art to select radiation length, power density and speed such that the intermediate layer of laminated glass is separated because HOEKSTRA discloses that the traditional

techniques of applying breaking forces to the intermediate layer result in microcracks in the layer (col. 9, lines 3-7).

15. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAFNER (US 3,453,097) as evidenced by ENCYCLOPEDIA BRITANNICA (microwaves) as applied to claims 1-5, 9, 10, 13, 15-18 and 24-26 above and further in view of LARSEN (US 2004/0123627 A1).

HAFNER teaches a method of separating a body of brittle non-metallic material by thermal shock as discussed above. HAFNER is silent to placing a microwave transparent material on the body's surface.

LARSEN teaches a glass masking method using lasers such that the masking material is burned through without damaging the glass underneath or any coatings (abstract). It would have been obvious to one of ordinary skill in the art to place one of these masks on the surface of the glass of HAFNER because LARSEN discloses that these masks protect the glass from abrasion and scratches during manufacture (para. 0007 - para. 0008).

Regarding claim 8, LARSEN teaches that a variety of masking materials may be used (para. 0052, lines 1-2) but cites that the material should be sufficiently clear to allow viewing the glass through the masking material (para. 0052, lines 3-4). It would have been obvious to one of ordinary skill in the art to try quartz as the masking material since it fits the sufficiently clear requirement of LARSEN.

16. Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAFNER (US 3,453,097) as evidenced by ENCYCLOPEDIA BRITANNICA (microwaves) as applied to claims 1-5, 9, 10, 13, 15-18 and 24-26 above and further in view of NOWICKI (Microwave Sources).

HAFNER teaches a method of separating a body of brittle non-metallic material by thermal shock. HAFNER is silent to the source of microwaves.

NOWICKI discloses that the two most common microwave sources are Magnetrons and Gyrotrons. It would have been obvious to try a magnetron in the process of HAFNER because NOWICKI discloses that it is highly efficient and has low operating cost (p. 1) which would accomplish the objective of HAFNER (col. 1, lines 59-63).

17. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over HAFNER (US 3,453,097) as evidenced by ENCYCLOPEDIA BRITANNICA (microwaves) as applied to claims 1-5, 9, 10, 13, 15-18 and 24-26 above and further in view of DE VITA et al. (US 3,238,475).

HAFNER teaches a method of separating a body of brittle non-metallic material by thermal shock. HAFNER is silent to the microwave absorbent material.

DE VITA teaches that carbon materials are microwave absorbent materials (col. 3, lines 2-3). Since HAFNER discloses that the absorbent materials are known in the art (col. 3, lines 18-20), it can be assumed that any microwave absorbent material would be available for use in the absorbent layer of HAFNER.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. HAMER et al. (US 3,543,979).

20. GRAHAM et al. (US 3,629,545).

21. GROVE et al. (US 3,800,991).

22. MORGAN et al. (US 4,467,168).

23. DEKKER et al. (US 5,084,604).

24. ZONNEVELD et al. (US 5,132,505).

25. KONDRATENKO (US 5,609,284).

26. STEVENS (US 5,622,540).

27. OSTENDARP et al. (US 6,112,967).

28. CHOO et al. (US 6,407,360 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA SZEWCZYK whose telephone number is (571)270-5130. The examiner can normally be reached on Monday through Thursday 7:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Carlos Lopez/
Primary Examiner, Art Unit 1791

CS